

AUTOMATICALLY ADJUSTING ANNULAR JET MIXER

Abstract of the Disclosure

An automatically adjusting jet mixer used in mixing fracturing fluid gel for
5 gas and oil wells. The mixer has an inner nozzle and an attached piston that
move axially within the mixer's housing to change the size of the nozzle opening
thorough which mix water enters the mixer. One side of the piston has a
pressure regulated area and an opposite side has an upstream area. The
upstream area is connected to the mix water supply pump and the pressure
10 regulated area is connected to the outlet of a pressure regulator that maintains a
constant pressure in the pressure regulated area. The piston and the nozzle
move via hydraulic pressure exerted on the piston in proportion to the change in
pressure in the upstream area to a position that will maintain a constant mixing
jet pressure, thus providing constant specific mixing energy, i.e. constant energy
15 per unit mass of fluid.